IN THE SPECIFICATION:

Please insert the following new paragraph after the paragraph numbered 0007 and before the heading "DETAILED DESCRIPTION OF THE INVENTION".

Figure 3 is a schematic illustration of a Nuclear Magnetic Resonance (NMR) system.

Please replace the paragraph numbered 0018 with the following replacement paragraph.

[0018] In one embodiment, system 10 is used to perform CT scans and determines blood flow parameters such as Tissue Blood Flow (TBF), Tissue Blood Volume (TBV), Tissue Mean Transit Time (TMTT) and Tissue Capillary Permeability Surface Area Product (TPS) as described below. In another embodiment, a Nuclear Magnetic Resonance (NMR) system ~~(not shown)~~ 100 (see Figure 3) scans and determines TBF, TBV, TMTT and TPS blood flow parameters such as described below. In an exemplary embodiment, system 10 scans and determines cerebral blood flow parameters such as Cerebral Blood Flow (CBF), Cerebral Blood Volume (CBV), and Cerebral Mean Transit Time (CMTT).

Please replace the paragraph numbered 0019 with the following replacement paragraph.

[0019] In one embodiment, system 10 is used to determine tissue type. More specifically, a tissue blood flow (TBF) is quantitatively determined by deconvoluting Q(t) and Ca(t), where Q(t) represents the tissue residue function and is a curve of specific mass of contrast in tissue, and Ca(t) represents an arterial curve of contrast concentration. Also a tissue blood volume (TBV), a tissue mean transit time (TMTT), and a tissue capillary permeability surface area product (TPS) are quantitatively determined by deconvoluting Q(t) and Ca(t). In another embodiment, a Nuclear Magnetic Resonance (NMR) system ~~(not shown)~~ 100 (see Figure 3) scans and determines tissue type by quantitatively determining TBF, TBV, TMTT and TPS.

Please replace the paragraph numbered 0020 with the following replacement paragraph.

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[0020] In one embodiment, the arterial curve of contrast concentration measured by system 10 and NMR system (not shown) 100 (see Figure 3) is corrected for partial volume averaging as described herein. For example, during a cranial scan, but not limited to cranial scans, arterial regions within the vascular territories of the cerebral arteries (anterior and middle) are identified, and used to generate the measured arterial curve of contrast concentration, $C_a^{'}(t)$. The measured arterial curve of contrast concentration is related to the arterial curve of contrast concentration, $C_a(t)$ by $C_a^{'}(t) = kC_a(t)$, where k is the partial volume averaging scaling factor as explained in greater detail below. A venous region either within the sagittal or tranverse sinuses is located, and $C_v(t)$ is generated where $C_v(t) = C_a(t) * h(t)$ and h(t) is the transit time spectrum of the brain, as explained herein. $C_a^{'}(t)$ and $C_v(t)$ are deconvolved to find $\frac{h(t)}{k}$. And a trailing slope of $C_a^{'}(t)$ is extrapolated with a monoexponential function to find $C_{a,ex}^{'}(t)$ which is convolved with $\frac{h(t)}{k}$ to find $C_{v,ex}(t)$. Where k is a partial volume averaging (PVA) scaling factor and is determined according to $k = \dfrac{\int\limits_{0}^{\infty} C'_{a,ex}(t)dt}{\int\limits_{0}^{\infty} C_{v,ex}(t)dt}$. The measured arterial curve of contrast concentration, $C_a^{'}(t)$, is then corrected for partial volume averaging by dividing with the factor k to arrive at the arterial curve of contrast concentration, $C_a(t)$.